

News Review



Issue Eighty-One

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Each month we review the latest news and select key announcements and commentary from across the bioenergy sector.

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Foreword

Welcome to the final Bioenergy News Review of 2018.

In the established bioenergy paradigm, it is known that bioenergy is, at best, carbon neutral in its raw form. The burning of biomass still emits carbon dioxide, but it has long been established that these emissions are mitigated by the fact that the biomass itself, in life, absorbed carbon from the atmosphere. This sets bioenergy at a disadvantage compared to other renewables such as solar and wind power, as these sources generate without any emissions at all (although it should also be noted that nor do they actively remove carbon from the atmosphere). However, one method by which bioenergy can become “carbon negative” is through Carbon Capture and Storage (CCS). This process “captures” the carbon emissions from burning biomass, and sequesters them underground. This technology has long existed in theory, but has taken a long time to actually be realised. This month we have several stories concerning the technology, its development, and the policy associated with it.

CCS deployment was promised in the UK’s Clean Growth Strategy, and duly BEIS has published an independent report into the possible business models of this. The report focuses on “part-chain” models, that do not deal with the entire CCS process. Possible ideas include establishing a Contracts for Difference style market for carbon capture projects, wherein projects would bid to receive tariff prices for the amount of captured carbon. Other models suggested in the report include tax credits for carbon capture, or tradeable certificates for carbon capture, in the vein of the Renewable Transport Fuel Obligation. It remains to be seen how these models will be incorporated into CCS deployment in the UK, but the government has now published an “action plan” dictating how it intends to work with industry to widely deploy CCS technology.

One generator that has not waited for Whitehall’s involvement has been Drax: the Yorkshire generator has launched the pilot plant for its CCS technology at its power station. The system aims to capture a tonne of CO₂ per day from Drax’s biomass burning units. The trial is due to run for six months, and we eagerly await the outcome, as it represents one of UK bioenergy’s first forays into further decarbonisation.

Read on for the latest news.

Policy

UK Government publishes Carbon Capture action plan

An action plan has been published setting out how government and industry can work in partnership to achieve the UK Government's ambition for carbon capture usage and storage (CCUS).

This document sets out the next steps government and industry should take in partnership in order to achieve the government's ambition of having the option to deploy CCUS at scale during the 2030s, subject to costs coming down sufficiently.

CCUS has economy-wide qualities which could be very valuable to delivering clean industrial growth. It could deliver tangible results in tackling some of the biggest challenges we face in decarbonising our economy, contributing to industrial competitiveness and generating new economic opportunities – a key part of our modern Industrial Strategy. Governments' vision is to become a global leader in CCUS, unlocking the potential of the technology and securing the added value which it can bring to our industrial centres and businesses all across the UK. The ambition is that the UK should have the option to deploy CCUS at scale during the 2030s, subject to the costs coming down sufficiently.

Click [here](#) for more information.

15% depression on RHI tariff for AD



Geograph

As of 31 October 2018, forecast expenditure for large biogas and biomethane injection has exceeded its expenditure threshold set out in the regulations. The actual growth for large biogas and biomethane is 1857%, which has exceeded the higher 150% threshold for depression. Likewise, the total scheme expenditure threshold has been exceeded, however there was no previous quarter depression. There will, therefore, be a 15% depression to the tariff for large biogas and biomethane coming into effect from 1 January 2019.

All other domestic and non-domestic RHI tariffs will not be depressed.

The next quarterly forecast will be published on 1 March 2019 with the next potential tariff reductions taking effect from 1 April 2019.

Click [here](#) for more information.

Ofgem pursues generators who miss RO shortfall payments



Geograph

Under the UK Government's Renewables Obligation schemes, suppliers who do not source the required proportion of electricity from renewable sources have to pay into a buy-out fund administered by Ofgem.

The amount of payments outstanding into the buy-out fund for 2017-2018 at 31 August was £102.9 million.

Suppliers had until 31 October to pay outstanding sums into the late payment fund to meet their obligations.

Ofgem have confirmed that, subject to review by an auditor, a shortfall of £58.6million remains. Suppliers who have not met their obligations in full are in breach of the Renewables Obligation Orders.

Ofgem has launched investigations into Economy Energy and Spark Energy over their non-payment and will seek to ensure the outstanding amounts are paid.

Ofgem has also given notice that it requires two other non-compliant suppliers – URE Energy and Eversmart – to deliver all outstanding payments by 31 March 2019 through monthly instalments.

If they fail to do so, Ofgem is ready to issue a final order to require full payment.

Separately, there is a shortfall of supplier payments into the periodic levelisation fund for the second quarter of Year 9 of the government's Feed-in Tariffs scheme which is administered by Ofgem.

This scheme provides payments to owners of small-scale renewable generators and is funded through levies on suppliers. Suppliers who have failed to pay by the levelisation deadline are in breach of the Feed-in Tariffs Order. The total outstanding shortfall for the scheme is £4.2 million.

Ofgem will be writing to suppliers who did not meet their obligations in full under the Feed-in Tariffs scheme advising them that they are non-compliant, and the matter has been referred to the regulator's enforcement team for consideration.

Shortfalls in the late payment fund for the Renewables Obligation scheme and the levelisation fund for the Feed-in Tariffs scheme will trigger mutualisation. This means that suppliers who have complied with their obligations will be required to make up the shortfall.

In both instances Ofgem will seek to secure the best outcomes for consumers and the wider energy market.

Click [here](#) for more information.

EU approves new energy targets

The European Parliament has confirmed the provisional agreement reached with the Council in June on energy efficiency, renewables and governance of the Energy Union - three important legislative files that are part of the Clean Energy for All Europeans package.

By 2030, energy efficiency in the EU has to have improved by 32.5%, whereas the share of energy from renewables should be at least 32% of the EU's gross final consumption. Both targets are to be reviewed by 2023. These targets can only be raised, not lowered.

By making energy more efficient, Europeans will see their energy bills reduced. In addition, Europe will reduce its reliance on external suppliers of oil and gas, improve local air quality and protect the climate.

For the first time, member states will also be obliged to establish specific energy efficiency measures to the benefit of those affected by energy poverty.

Member states must also ensure that citizens are entitled to generate renewable energy for their own consumption, to store it and to sell excess production.

Each member state must present a ten-year "integrated national energy and climate plan" with national targets, contributions, policies and measures by 31 December 2019, and every ten years thereafter.

Click [here](#) for more information.

Drax secures risk-sharing deal in wake of capacity market suspension



Wikimedia Commons

Last month's decision by the UK government to suspend the UK capacity market scheme following an EU ruling that challenged whether the scheme complied with State Aid rules, has put at risk payments to plants Drax Group is buying as part of a deal with Scottish Power and it has agreed a risk-sharing scheme with parent owners Iberdrola as a result.

In October, Drax agreed a £702m cash deal to acquire Scottish Power's UK power generation assets from Iberdrola. The deal saw Drax pick up pumped storage, hydro and gas-fired power assets.

However, the British power producer said in a statement that last month's decision on the UK capacity market scheme had put at risk payments to plants it is buying as part of the deal and that it had agreed a risk-sharing scheme with Iberdrola as a result.

The amended deal could see Drax receive a payment of up to £26m in compensation depending on the outcome of challenges to the EU over the ruling.

Drax said it believes the strategic merits of the acquisition remain unchanged and that the board feels there is a "compelling logic" in its move to add further flexible sources of power to its offering.

Click [here](#) for more information.

Markets

Budget notice released for next Contract for Difference auction



Geograph

On 20th November, BEIS issued a draft budget notice to National Grid for the next CfD allocation round, which they confirm is planned to open in May 2019. Within the note they set out the CfD monetary and capacity budgets for the two delivery years that will apply in the auction, 2023/24 and 2024/25.

The auction will be for pot 2 'less established' technologies which include: Advanced Conversion Technologies, Anaerobic Digestion (>5MW), Dedicated Biomass with CHP, Geothermal, Offshore Wind, Remote Island Wind (>5MW), Tidal Stream and Wave.

In the last two auctions, the final clearing price has been below the administrative prices published before the auction. There will be no technology specific maxima or minima applied in the auction, so each technology will compete on an equal, and unlimited, footing. However, the overall capacity cap of 6 GW is new and will likely constrain the auction further.

It's likely that the bidding will be tight, with the next auction not planned until 2021.

Click [here](#) for more information.

Ofgem distributes late payments for Renewables Obligation

Ofgem redistributed the 2017-18 RO late payment fund on 30 November 2018. A total of £44,571,252 was paid to suppliers who presented Renewables Obligation Certificates (ROCs) this year. Suppliers received £5.42 per ROC presented after the redistribution of the buy-out fund. From the redistribution of the late payment fund, they have received an extra £0.43 per ROC. This means that the final recycle value for 2017-18 is £5.85.

Late payments are redistributed to the suppliers on the same basis as the buy-out fund, i.e. in line with the proportion of the total ROCs they presented across the three schemes. Therefore, each supplier received the same proportion of the late payment fund as they did from the redistribution of the buy-out fund.

Suppliers have until 1 September to present ROCs to us or make buy-out payments to meet their obligations. Suppliers who have not met their obligations in full by this date must make late payments by 31 October. This year, thirty-four suppliers failed to meet their obligation by the deadline of 1 September.

Of the 34 suppliers who failed to discharge their obligation by the deadline of 1 September, 20 fully discharged their obligation by the late payment deadline of 31 October. The remaining 14 suppliers did not meet their obligation in full. This resulted in a total shortfall of £58.6m.

As a relevant shortfall has been reached, mutualisation has been triggered for both RO and ROS. In line with the RO Orders, suppliers who discharged part of all of their obligation will be contacted to make quarterly payments to make up the shortfall, in proportion to their obligation.

Click [here](#) for more information.

Research & Development

BEIS analyses Carbon Capture and Storage business models



Pexels

An independent report has been published by BEIS, examining potential business models for establishing an incentive mechanism for industrial carbon capture in the UK.

Deep decarbonisation of all sectors of energy use is required to meet the UK's long-term emissions reductions goals. Whilst progress has been made in the power sector, energy intensive industry (EII) presents a particular challenge, both technically due to lack of alternative processes, and economically, due to the internationally traded nature of many products. Carbon Capture Utilisation and Storage (CCUS) has been recognised, both internationally and in the UK, as a key technology in reducing carbon dioxide (CO₂) emissions in industry.

To unlock the potential for CCUS deployment at scale in the UK during the 2030s, BEIS committed in the Clean Growth Strategy (CGS) to review viable delivery and investment models. As the previous fullchain CCS projects in the UK involved complex risk sharing arrangements, it is important to explore whether "part chain" business models

for industrial carbon capture (ICC) are more investable. Element Energy and its partners were commissioned by BEIS to identify the range of business models that could incentivise cost-effective deployment and operation of ICC technology in the UK.

Three of the models were deemed to be broadly applicable: CfDC on CO₂ price; tradeable tax credits; and tradeable CCS certificates. Three more have limited applicability or require further research. Cost plus is a promising model for the scale-up phase but may not drive the desired cost reductions in the roll-out phase. RAB performs well under the evaluation criteria but is primarily applicable to hydrogen and raises affordability concerns around heating bills. Finally, low carbon market creation is considered to have potential; however, the concept requires further development to better understand the instruments required for success.

Click [here](#) for more information.

New research suggests available EU biomass could triple

Ahead of the COP24 United Nations Climate Change Conference in Katowice, Poland, new research on biomass potential claims it can be a 'key solution' in climate change mitigation.

According to the recently published research, the amount of domestically available biomass that is used for bioenergy in Europe can triple within sustainable and environmental limits whilst staying within 'reasonable' cost limits.

The COP24 meetings are focusing on the urgency of fighting climate change. Research into how biomass has a prominent role to play towards a net-zero greenhouse gas emissions economy has recently been highlighted in the EU's new long-term strategy for decarbonisation.

Bioenergy Europe says that bioenergy represents one of the most important solutions to achieve a balance between emissions and removals by 2050. The trade association believes that bioenergy is versatile and flexible and can help to drastically cut carbon emissions in transport, heating and electricity sectors.

Bioenergy's contribution towards the 2050 energy mix is to be determined by the availability of sustainable biomass. Bioenergy Europe states that agricultural biomass plays a key role in the research conducted by Professor Dr André Faaij of the University of Groningen. The research indicated that in order to achieve the potential by 2050, agricultural biomass' energy contribution will need to significantly increase. It will also need to become as important as the energy that is produced from forest biomass.

Click [here](#) for more information.

UK Government publishes evidence for biomass heating by 2050

The UK Government has published a review of the main evidence sources which consider the costs, greenhouse gas emissions, and potential for biomass in 2050 that could be used to supply heat.

As part of its wider research into heat decarbonisation, BEIS commissioned Ecofys to explore the evidence on technical potential, costs and greenhouse gas emissions of biomass heat supply chains to 2050.

The review considered the following major sources of evidence: those which provide information on potential availability and prices of biomass sources that could be used for bioenergy; information on the costs and deployment potential of technologies that process biomass into a fuel, or produce biogas, such as anaerobic digestion and gasification; greenhouse gas

emissions from a typical biogas supply chain across a range of biomass types and technologies.

The summary report sets out major findings from the evidence review, identified evidence sources that appear most robust, and areas where weakness, uncertainties, and gaps remain.

The technical annex summarises each major evidence source and comments on the quality of the evidence, depending on the breadth and depth of the information gathered.

Click [here](#) for more information.

Energy Barge project set to map European bioenergy markets



Energy Barge

The Energy Barge project has launched its website providing an update on work undertaken to identify and map bioenergy markets across countries that border the Danube, providing insights into Eastern Europe as well as providing detail on port logistics and a means of identifying potential business partners in the relevant regions. The project will build a picture of biomass flows through the region.

Click [here](#) for more information.

Biomass Heat and Power

Drax BECCS system set to begin operation

The commissioning of an innovative Bioenergy Carbon Capture and Storage pilot plant at Drax Power Station has started with the first carbon dioxide expected to be captured in the coming weeks.

If successful, the six-month pilot project will capture a tonne of gas a day from the gases produced when renewable power is generated using biomass at Drax – the UK's biggest power station, near Selby in North Yorkshire.

BECCS is vital to global efforts to combat climate change because the technology will mean the gases that cause global warming can be removed from the atmosphere at the same time as electricity is produced. This means power generation would start to reduce the carbon accumulating in the atmosphere – vital for tackling climate change.

Drax is partnering with Leeds-based C-Capture and is investing £400,000 in what could be the first of several pilot projects undertaken at the power station to deliver a rapid, lower cost demonstration of BECCS.

Drax Power Station became the largest decarbonisation project in Europe by upgrading two thirds of its generating units to use biomass instead of coal and, if the BECCS pilot is successful, it will examine options for a similar re-purposing of existing infrastructure to deliver more carbon savings.

The Royal Academy and Royal Society of Engineers have estimated that BECCS could

enable us to capture 50 million tonnes of carbon dioxide per year by 2050 – approximately half the nation's emissions target.

The government's Clean Growth Strategy identified BECCS as one of several greenhouse gas removal technologies that could remove emissions from the atmosphere and help achieve long term decarbonisation.

Click [here](#) for more information.

Responses to UK consultation on banning biomass combustion from RHI



Wikimedia Commons

The Renewable Energy Association and Wood Heat Association have responded to a BEIS consultation which proposes to ban RHI support for biomass combustion in urban areas. The response argues that the proposals will needlessly limit options for the decarbonisation of heat whilst negatively affecting the Government's ability to meet its decarbonisation targets. Instead, the REA and WHA recommend that the Government focus on raising emission standards, mandating maintenance checks for RHI-accredited systems alongside promoting and enforcing existing air quality regulations.

Click [here](#) for more information.

Biogas

Biogas plants could have widespread benefits for the US



PxHere

The American Biogas Council (ABC) has released a statement addressing the results of the fourth National Climate Assessment.

The report outlines how climate change could affect the US. It highlighted how climate change could transform the region and impose demanding costs, potentially posing a threat to the health of American citizens.

The Climate Assessment's conclusions are alarming, and particularly the role that human actions and the way waste is managed plays in creating the crises we face. Building more biogas systems to recycle organic waste into renewable energy and soil products is a critical near-term action the US can take to make a significant beneficial impact.

In the US alone, each year they produce an enormous volume of organic residuals that must be better managed. The EPA found in 2014 that 258 million tons of municipal solid waste was generated, and that digestible organic materials such as waste paper, yard trimmings and food waste were the largest component. In addition to municipal solid waste, there are trillions of tons of industrial food and agricultural processing waste, municipal wastewater and animal manure.

Building more biogas systems ensures the US has the capacity to divert these materials from disposal, thus preventing harmful emissions.

Use of biogas displaces fossil fuels for electricity and transportation, and the use of the natural soil amendments eliminates emissions from the production of fossil fuel-derived fertilizers. Biogas systems can also protect watersheds by reducing nutrient runoff and protect against drought by making soils healthy. Biogas that is upgraded and used as vehicle fuel has one of the lowest carbon intensities for all conventional and alternative renewable fuels, as validated by the California Air Resources Board.

Today, the US has 2,200 operating biogas systems, and has the potential to build at least 14,000 more. Doing so would produce enough energy to power 7.5 million American homes and reduce emissions equivalent to removing up to 15.4 million passenger vehicles from the road. They would also catalyze an estimated \$40 billion in capital deployment for construction activity, which would result in approximately 335,000 short-term construction jobs and 23,000 permanent jobs to build and run the digesters.

Click [here](#) for more information.

Belgium's first biomethane plant



Wikimedia Commons

Dutch biogas upgrading specialist, Bright Biomethane, have completed the installation of the first biomethane facility in Belgium to inject renewable gas into the grid.

According to the company, the installation at Energy Conversion Facility 'IOK Afvalbeheer' in Beerse and successfully produced Belgium's first sustainable biomethane and injected into grid of operator Eandis's.

IOK Afvalbeheer currently produces renewable bioenergy in two ways: 75% of the biogas is converted in a CHP into heat and electricity that also is reused by the biogas plant and the biogas upgrading system and 25% of the biogas is converted to biomethane for injection into the national gas grid.

This sustainable energy production will in the future shift towards an increase of biomethane. Instead of 91 Nm³ low-calorific biomethane (L-gas), 242 Nm³ high-calorific biomethane (H-gas) per hour will be produced in the near future.

Bright Biomethane added that the project was not just the first of the kind in the country, but also its first in Belgium.

The biomethane system uses membrane technology to upgrade the biogas to 91 Nm³ biomethane per hour, equivalent to the annual natural gas consumption of 350 households.

The company also noted that its system is easily expandable, ensuring that enough biomethane is produced in the future to provide gas for around 1000 families.

The biogas is produced from the anaerobic digestion of garden, fruit and vegetable waste (GFV) from more than half a million residents of the Kempen area.

Click [here](#) for more information.

Funding for Irish biogas project

Gas Networks Ireland's 'GRAZE Gas' project has been selected as one of seven initiatives to receive investment under the Government's Climate Action Fund, to the tune of €8 million.

The 'Green Renewable Agricultural Zero Emissions Gas' project will, claims Gas Networks Ireland, "play a key role in decarbonising Ireland's energy, transport and agricultural sectors".

The plan involves the development of a Central Grid Injection (CGI) facility, where renewable gas will enter the national gas grid. This CGI facility will also, according to Gas Networks Ireland, enable the development of on-farm anaerobic digestion (AD) plants, which will supply it with the gas.

The facility will be located in Mitchelstown, Co. Cork, and it is hoped that it will be the first of 17 similar plants throughout the country, which will be supplying renewable gas to the natural gas network.

Click [here](#) for more information.

Events

Energy & Rural Business Show Telford, 6th-7th February 2019

The Energy and Rural Business Show is a business event for the agricultural and rural communities of the UK, providing in depth information and guidance on renewable energy generation and use, diversification ventures, low-emission vehicle & machinery options and ways to maximise the value of available resources.

Click [here](#) for more information.

Gasification 2019 Brussels, 13th-14th March 2019

The conference will showcase the latest developments in the sector and provide key insights from senior executives in the industry to discuss the latest commercial and technical developments, challenges and research breakthroughs throughout the entire gasification market.

Click [here](#) for more information.

EUBCE 2019 Lisbon, 27th-30th May 2019

The EUBCE is the leading platform for the collection, exchange and dissemination of scientific and industrial know-how in the field of biomass.

The EUBCE combines one of the largest biomass science and technology conferences with a high-quality industry exhibition, attracting biomass professionals from around the globe.

Click [here](#) for more information.

UK AD and World Biogas Expo Birmingham, 3rd-4th July 2019

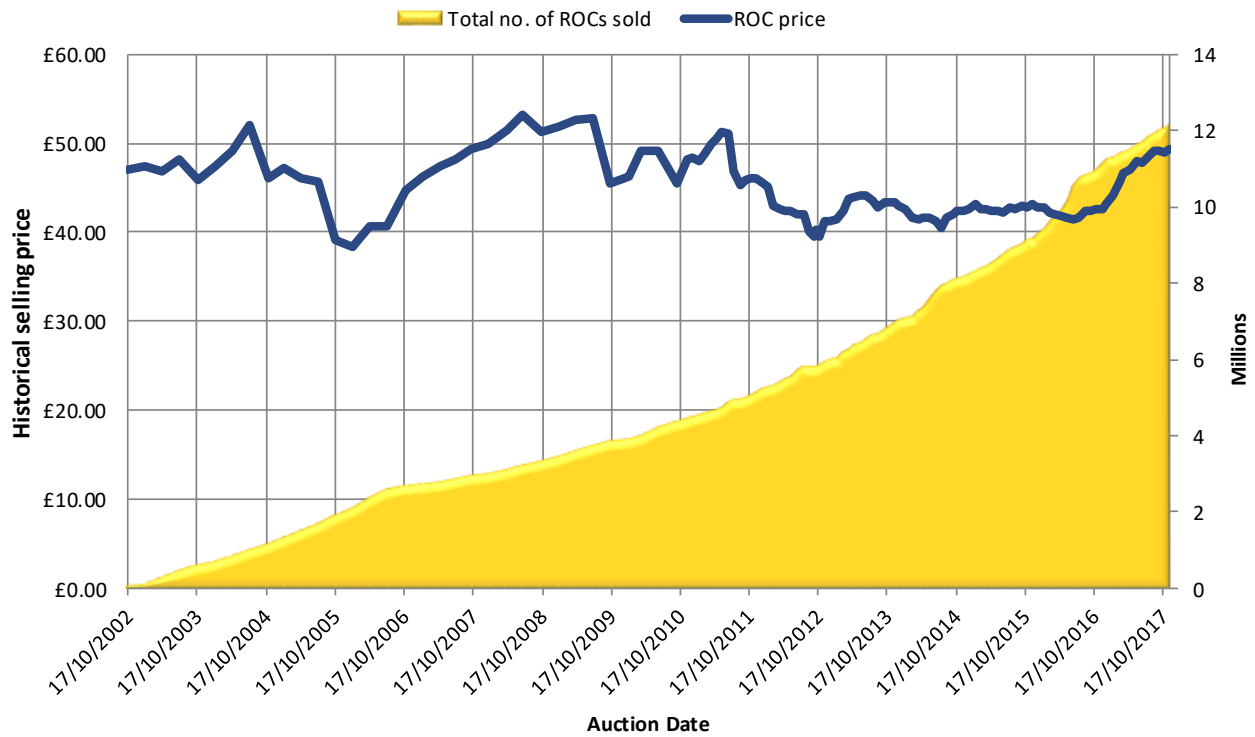
As the largest international trade show dedicated solely to AD and biogas, UK AD and World Biogas Expo 2019 offers a unique combination of industry insight, innovation and investment opportunities for both the UK and international markets. UK AD and World Biogas Expo is unique in covering all sectors and regions where AD offers solutions – from UK farming to world mega cities, from local waste and water management to global energy generation and transport.

UK visitors will hear about the latest domestic market news, including policy and regulations, as well as discover international trends and developments. International visitors will be able to explore business prospects in the UK as well as showcase their success stories.

Click [here](#) for more information.

Prices

Historical auctioned prices of ROCs in sterling pounds, and total amounts of ROCs historically sold.



Click [here](#) for more information

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